

**SECTION ONE AMENDMENTS TO THE ORIGINAL SPECIFICATION OF RECORD
IN PARAGRAPH FORM:****Amendments to Paragraph 4 of page 2:****Summary Of The Invention**

My invention discloses a pressure selector joy stick type mechanism including a tiltable lever operator which includes axial motion (push and pull movement) as well. The lever tilting motion selectively actuates a first array of four valves providing machine control {much the same as prior art joy stick pressure controllers. However my} My invention has connected to the lever a second {cam} actuator and two more arrays of four valves oriented {parallel to and circular} circularly about the lever, and near the second {cam} actuator. {Valves of the first parallel array actuate when the lever is pulled axially}. Valves of the second {parallel} array actuate when the lever is {pushed} pulled axially. Valves of the third array actuate when the lever is pushed axially. As can be understood, the invention fluidic controller can operate {more} many functions (has {broader} broad utility) when plumbed to machinery {then do prior art pressure joy stick controllers}: The invention lever operator can be tilted to control some machinery functions, and can be pulled to control other machinery functions, and can be pushed to control still other machinery functions.

Amendments to Paragraph 1 of Page 3:

Prior art pressure joy stick valves are {limited to tilted only control} sometimes limited to tilted axis only control of machinery, and must resort to (more complex and less intuitive) additional external valves to add additional machinery functional control.

**Amendments to Paragraph 2 of page 3 (error corrections noticed by examiner office action
Sept 07, 2005)**

My invention has {an} the advantages of:

- i. costing less than prior art pressure joy stick valves with added valve operators
- ii. being more intuitive to control supported equipment pitch, roll, and elevation than prior art fluidic joy stick valves with added valve operators:

- a. intuitive because as the single lever is tilted to left / right roll is controlled
 - b. intuitive because as the single lever is tilted forward / backward pitch is controlled
 - c. intuitive because as the single lever is pulled / pushed elevation is controlled
- {iv} iii. being less costly, lighter weight, less complex, and thinner (to be positioned under machine structures) than are electric joy stick systems operating motorized jack screw positioners.

Amendments to Paragraph 4 of pages 3,4

Description Of The Preferred Embodiments

1. The Invention Pressurized Fluid Controller Using Tilt / Push / Pull Operator Preferred Embodiment in General

The view of FIG. 1 shows my invention “pressurized fluid controller using tilt / push / pull operator” referred to as numeral **25**. Assembly **25** includes a housing **10**, with four bores through which are attached {radial} a first set of four valves (three shown) **18a, 18b, 18c, 18d**. The housing **10** includes an additional four bores through which are {attached four} more valves (three shown) **23a, 23b, 23c, 23d** {facing longitudinally in one direction}. The housing **10** includes a final four bores through which are attached {four final} a third set of four final valves (three shown) **20a, 20b, 20c, 20d** {facing in the opposite longitudinal direction}.

Amendments to Paragraph 1 of page 6: (error correction noticed by examiner office action Sept 07, 2005)

At best a good {compete} complete heavy equipment positioning system could include the four air bags **27a, 27b, 27c, 27d**, the assembly **25** (controlling pitch, roll, and elevation); and the four air bearings **28** allowing minute / unimpeded / omni directional / and near frictionless floor XY movement of the equipment **24**.

Amendments to Paragraph 3 of page 6

2. Invention Construction Detail

More details of the assembly **25** operation and construction show in the views of FIGS. **2** and **3**. One construction of the housing **10** is machining out of metal or plastic in the shape of a square hollow tube near the knob **16** end. This shape easily allows for the drilling of four {radial} mounting holes to attach each of the four {radial} valves **18a, 18b, 18c, 18d** with a nut **19**. Each of the {radial} valves **18a, 18b, 18c, 18d** can have a short cap **22** attached to each valve stem to increase the valve stem contact surface with the lever **15** to a diameter slightly less than the lever **15** diameter. The caps **22** can be attached to the stems with set screws (not shown). The caps **22** increased area is beneficial as it allows the lever **15** to more easily engage the particular valve **18a, 18b, 18c, 18d** even if the lever's **15** approach angle is not exactly 90 degrees. The {radial} mounting hole location should be selected far enough away axially from the swivel joint **33** so the tilting movement of the lever **15** in the plane of the valves **18a, 18b, 18c, 18d** about equals the valve stroke plus allowing about 1/16 inch clearance between the lever **15** and the attached valve cap **22**.

Amendments to Paragraph 1 of Page 7:

The opposite end of the housing **10** can be a round hollow thick disc in shape, with thin walls as best shown in the views of FIG. **4**, FIG. **3**, and FIG. **2**. This particular shape can accommodate easy axially attachment of each of the eight valves **23a, 23b, 23c, 23d, 20a, 20b, 20c, 20d** in eight mounting holes with the nut **19**. Also this housing **10** shape provides {an axial} a cavity between the stem tips of the valves **23a, 23b, 23c, 23d**, and the stem tips of the valves **20a, 20b, 20c, 20d**. This axial cavity space can accommodate the actuator **17**. The actuator **17** can be attached to the lever **15** with a flat head screw (not shown). The internal length of the housing **10** cavity space should allow for the thickness of the actuator **17**, plus the stem noses of all the valves **23a, 23b, 23c, 23d, 20a, 20b, 20c, 20d**, plus a clearance of about 1/16 inch on each side of the actuator **17**.

Amendments to Paragraph 3 of Page 7:

The fitting type (connection to a pressurized conduit **21a, 21b, 21c, 21d**) throughout the system can be simple 10-32 gasket type barb tube fittings available in most hardware store outlets. The

interconnecting conduits **21a, 21b, 21c, 21d** can be made from standard 1/8 inch inside diameter polyurethane tubing as the fluid flow rate for pressurized actuators is {usually low} nominal and 1/8 inch diameter porting can function well in the system.

Amendments to Paragraph 5 of pages 11, 12 is deleted:

{9. Alternate Embodiment ---Alternate Valve Quantities (not shown)

All the drawings of the previous embodiments showed designs which include arrays of four valves. There is no reason why the three valve arrays can't include other quantities of valves such as one, two, three, eight, etc. For example, if only the equipment **24** pitch control is desired (with no roll control); then the first array of radial valves would only need the valves **18a** and **18b**. As another example, if the equipment **24** to be roll, pitch and elevation controlled is supported upon air cylinders which include pilot actuated pressure dump valves, then the assembly **25** would need only the one valve **20a** in the bottom (third array) as the valve **20a** could be the pilot valve capable of dumping all four air cylinders thus lowering the equipment **24**. }

Amendments to Paragraph 1 of Page 12 is deleted:

{9. Alternate Embodiment ---Alternate Two Valve Arrays Instead of Three Valve Arrays (not shown).

All the previous assembly **25** configurations used three valve arrays (first radial set operated by the lever **15** tilting, the second axial set operated by the lever **15** pulling, and the third axial set operated by the lever **15** pushing). However, the third valve **20a, 20b, 20c, 20d** array could be unnecessary if the second array of valves **23a, 23b, 23c, 23d** used three position valves instead of two position. When using three position valves, as the lever **15** is pushed, all the three position valves **23a, 23b, 23c, 23d** could shift to a position to exhaust all the air bags **27a, 27b, 27c, 27d** of FIG. 5 thus lowering the equipment **24**. Using three position valves, as the lever **15** is pulled, all the three position valves **23a, 23b, 23c, 23d** could shift to a position to fill all the air bags **27a, 27b, 27c, 27d** of FIG. 5 thus raising the equipment **24**. As can be seen, if array of the valves

23a, 23b, 23c, 23d can control raising and lowering of the equipment 24, then the third valve array 20a, 20b, 20c, 20d can be eliminated.}

Amendments to Paragraph 2 of page12:

For purposes of exemplification, particular embodiments of the invention have been shown and described to the best understanding thereof. However, other embodiments can include {other radial valves types, other multiple axial valve types and arrangements activated by a lever operator as} other valve types arranged in other positioning configurations activated by other configurations of lever operators as the lever operator is tilted, pulled, or pushed to accomplish a wide variety of pressurized actuator control, irrespective of particular structure configuration and materials without departing from the spirit and scope of the claimed invention.